

E1

the physical form of a monofilament, a braided or wound assembly of filaments, a tape, hollow tube, or the like. The thread may be of any material that provides adequate physical, chemical, and mechanical properties. Suitable materials may be, but are not limited to, cotton, polyamide, polyester, acrylic, teflon, glass, steel, KEVLAR[®] fibers (aromatic polyamide fibers), and the like. Examples of relevant properties are tensile strength, elastic modulus, and inertness to the anticipated chemical treatments. The thread itself may be chemically modified so as to permit attachment of library members, covalently or otherwise, or the thread may support a continuous or discontinuous solid phase support for synthesis, as for example a series of beads arrayed along the thread, a grafted polymer layer, or a gel phase coated upon or impregnated into the thread. Many methods of functionalizing various materials and surfaces for use as synthesis supports are known in the art.--

Please replace the paragraph on page 8, beginning at line 18, with the following paragraph.

E2

--As one of ordinary skill in the art will realize, the support or thread may comprise any material upon which an array of compounds may be synthesized or attached, and that provides the desired physical, chemical and mechanical properties. Specific examples of relevant properties include, but are not limited to, tensile strength, elastic modulus, and inertness to the anticipated chemical treatments. In certain embodiments, this support comprises simply one material. In other embodiments, this support or thread is a composite material, that is, comprises a combination of one or more materials in any possible form. Examples of particularly preferred materials for use single material or composite supports include, but are not limited to, cotton, polyamide, polyester, acrylic, teflon, glass, steel, KEVLAR[®] fibers (aromatic polyamide fibers), metal, and the like, or any combination of one or more appropriate materials.--

Please replace the paragraph on page 21, beginning at line 22, with the following paragraph.

E3

--The data obtained from the thread reading was reduced to 2 points per compound, as outlined above (one point for each signal, taken as the average rise above the valley on either

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CM

side of the signal, and one point between each peak). The Fourier transformation was done using a basic program using standard algorithms (Lynn et al., *Introductory Digital Signal Processing with Computer Applications*; Wiley: Chichester, 1989.; Press et al., *Numerical Recipes in C: The Art of Scientific Computing*; 2 ed.; Cambridge Univ. Pr.: Cambridge, 1993.; Blahut, R.E. *Fast Algorithms for Digital Signal Processing* 1985). In a preferred embodiment, the FT should be resonant: a radix 2 algorithm is less appropriate, and would require oversampling of data. The "waveform" corresponding to efficacy of particular amino acids installed on a given cylinder was extracted as follows. The real and imaginary parts of the peak at the relevant frequency were extracted from the frequency domain, as were all harmonics. These values were then put into a smaller array and fourier transformed back to the time domain. The resulting "waveform" represents the output signal for each of the functional groups added on that cylinder. The signal for the 35 compound library, shown in Figure 7, was Fourier transformed, and the waveforms corresponding to the 5 and 7 cm cylinders were extracted from the FT spectrum. These waveform binding profiles are shown in Figure 8.--

A marked-up version of each of the paragraphs amended above is included in Appendix A.

In the claims:

Please amend the claims as follows. For the convenience of the Examiner, all of the claims, in the form they will take after entrance of the present Amendment, are attached as Appendix B.

1. (Thrice Amended) An array of at least two different chemical compounds attached to a support, wherein the array has linear organization;

wherein each chemical compound is represented in the array at least twice at discontinuous regions of the array; [and]

wherein the chemical compounds are not intermediates leading to a single final product; and